

## Section 1. Identification

**Product name** Brayco IC X-100  
**Other means of identification** Fluorochemical derivative. Solvent.  
**SDS #** 468802  
**Code** 468802-US03

### Relevant identified uses of the substance or mixture and uses advised against

**Product use** Solvent.  
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

**Supplier** BP Lubricants USA Inc.  
1500 Valley Road  
Wayne, NJ 07470  
Telephone: +1-888-CASTROL

**EMERGENCY HEALTH INFORMATION:** +1-800-447-8735

**EMERGENCY SPILL INFORMATION:** +1-800-424-9300 (CHEMTREC USA)  
+1-703-527-3887 (CHEMTREC outside the US)

## Section 2. Hazards identification

**OSHA/HCS status** This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** Not classified.

### GHS label elements

**Signal word** No signal word.

**Hazard statements** No known significant effects or critical hazards.

### Precautionary statements

**Prevention** Not applicable.

**Response** Not applicable.

**Storage** Not applicable.

**Disposal** Not applicable.

**Hazards not otherwise classified** Thermal degradation products may include hydrogen fluoride gas. Possibility of corrosive damage from hydrofluoric acid and systemic fluoride toxicity should be considered where exposure has occurred to such degradation products.

## Section 3. Composition/information on ingredients

**Substance/mixture** Substance  
Fluorochemical derivative.

| Ingredient name    | %   | CAS number |
|--------------------|-----|------------|
| perfluoropolyether | 100 | 69991-67-9 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

## Section 3. Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

|                                   |   |
|-----------------------------------|---|
| <b>Eye contact</b>                | In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention if symptoms occur. |
| <b>Skin contact</b>               | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.   |
| <b>Inhalation</b>                 | If inhaled, remove to fresh air. Get medical attention if symptoms occur.   |
| <b>Ingestion</b>                  | Do not induce vomiting. Aspiration hazard if swallowed. Can enter lungs and cause damage. Get medical attention.  |
| <b>Protection of first-aiders</b> | No action shall be taken involving any personal risk or without suitable training.  |

### Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

### Indication of immediate medical attention and special treatment needed, if necessary

|                            |   |
|----------------------------|---|
| <b>Notes to physician</b>  | Treatment should in general be symptomatic and directed to relieving any effects. |
| <b>Specific treatments</b> | No specific treatment.  |

## Section 5. Fire-fighting measures

### Extinguishing media

|                                       |  |
|---------------------------------------|--|
| <b>Suitable extinguishing media</b>   | In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray. |
| <b>Unsuitable extinguishing media</b> | Do not use water jet.  |

|   |   |
|---|---|
| <b>Specific hazards arising from the chemical</b> | In a fire or if heated, a pressure increase will occur and the container may burst. |
|---|---|

|                                      |   |
|--------------------------------------|---|
| <b>Hazardous combustion products</b> | Combustion products may include the following:<br>halogenated compounds<br>carbon oxides (CO, CO <sub>2</sub> ) (carbon monoxide, carbon dioxide) |
|--------------------------------------|---|

|   |   |
|---|---|
| <b>Special protective actions for fire-fighters</b> | No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. |
|---|---|

|   |   |
|---|---|
| <b>Special protective equipment for fire-fighters</b> | Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Fire-fighters' protective clothing will only provide limited protection. |
|---|---|

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

|                                    |  |
|------------------------------------|--|
| <b>For non-emergency personnel</b> | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling. |
| <b>For emergency responders</b>    | If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".  |

## Section 6. Accidental release measures

### Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

#### Small spill

Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

#### Large spill

Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

### Precautions for safe handling

#### Protective measures

Put on appropriate personal protective equipment (see Section 8). Do not ingest. Aspiration hazard if swallowed. Can enter lungs and cause damage. Use only with adequate ventilation. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Avoid prolonged or repeated contact with skin. During metal working, solid particles from workpieces or tools will contaminate the fluid and may cause abrasions of the skin. Where such abrasions result in a penetration of the skin, first aid treatment should be applied as soon as reasonably possible. The presence of certain metals in the workpiece or tool, such as chromium, cobalt and nickel, can contaminate the metalworking fluid and as a result may induce allergic skin reactions. Keep away from ignition sources such as heat/sparks/open flame. - No smoking. Concentrations of mist, fumes and vapors in enclosed spaces may result in the formation of explosive atmospheres. Excessive splashing, agitation or heating must be avoided.

#### Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

#### Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Avoid excessive heat.

#### Not suitable

High temperatures

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

perfluoropolyether

None.

#### Biological exposure indices

No exposure indices known.

#### Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained. Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.

## Section 8. Exposure controls/personal protection

### Environmental exposure controls

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.

The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### Eye/face protection

Safety glasses with side shields.

#### Skin protection

##### Hand protection

Wear chemical resistant gloves. Recommended: Butyl gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

##### Body protection

Use of protective clothing is good industrial practice.

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Wear clothing and footwear that cannot be penetrated by chemicals or oil.

Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

##### Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

##### Respiratory protection

Use with adequate ventilation.

In case of insufficient ventilation, wear suitable respiratory equipment.

Recommended: half-face mask - organic vapor filter (Type A).

The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

## Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

|   |                   |
|---|-------------------|
| Physical state  | Liquid.           |
| Color   | Colorless.        |
| Odor  | Odorless.         |
| Odor threshold  | Not available.    |
| pH  | Not applicable.   |
| Melting point/freezing point                            | <-110°C (<-166°F) |
| Boiling point, initial boiling point, and boiling range | 55°C (131°F)      |

## Section 9. Physical and chemical properties

|  |   |
|--|---|
| Flash point  | Not available.<br>Not considered to be flammable.       |
| Evaporation rate                                   | Not available.  |
| Flammability                                       | Not applicable. Based on - Physical state               |
| Lower and upper explosion limit/flammability limit | Not available.  |
| Vapor pressure                                     | 29.6 kPa (222.02 mm Hg) [20°C (68°F)]                   |
| Relative vapor density                             | >1 [Air = 1]  |
| Density  | >1000 kg/m <sup>3</sup> (>1 g/cm <sup>3</sup> ) at 20°C |
| Solubility(ies)                                    |   |

| Media | Result      |
|-------|-------------|
| Water | Not soluble |

|  |   |
|--|---|
| Partition coefficient: n-octanol/water | Not applicable.   |
| Auto-ignition temperature              | >600°C (>1112°F)  |
| Decomposition temperature              | >190°C (>374°F)   |
| Viscosity                              | Kinematic: 0.35 to 0.46 mm <sup>2</sup> /s (0.35 to 0.46 cSt) at 20°C |
| Particle characteristics               |   |
| Median particle size                   | Not applicable.   |

## Section 10. Stability and reactivity

|                                    |   |
|------------------------------------|---|
| Reactivity                         | No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.                                   |
| Chemical stability                 | The product is stable.  |
| Possibility of hazardous reactions | Under normal conditions of storage and use, hazardous reactions will not occur.<br>Under normal conditions of storage and use, hazardous polymerization will not occur. |
| Conditions to avoid                | Avoid excessive heat.   |
| Incompatible materials             | Active metals, metal oxides at temperatures > 280 C, Lewis acid catalysts, strong or non-aqueous alkali.  |
| Hazardous decomposition products   | When conditions to avoid and/or incompatible materials are met, the following decomposition products may occur: carbonyl difluoride, hydrogen fluoride (HF)             |

## Section 11. Toxicological information

### Information on toxicological effects

|  |  |
|--|--|
| Information on the likely routes of exposure | Routes of entry anticipated: Dermal, Inhalation, Eyes. |
|--|--|

### Potential acute health effects

|              |   |
|--------------|---|
| Eye contact  | No known significant effects or critical hazards.   |
| Skin contact | No known significant effects or critical hazards.   |
| Inhalation   | Vapor inhalation under ambient conditions is not normally a problem due to low vapor pressure.  |
| Ingestion    | Aspiration hazard if swallowed -- harmful or fatal if liquid is aspirated into lungs.<br>Ingestion of large quantities may cause nausea and diarrhea. |

### Symptoms related to the physical, chemical and toxicological characteristics

|              |                 |               |             |                  |
|--------------|-----------------|---------------|-------------|------------------|
| Product name | Brayco IC X-100 | Product code  | 468802-US03 | Page: 5/9        |
| Version      | 4.01            | Date of issue | 12/19/2023. | Format US        |
|              |                 |               |             | Language ENGLISH |

## Section 11. Toxicological information

|                     |  |
|---------------------|--|
| <b>Eye contact</b>  | No specific data.  |
| <b>Skin contact</b> | No specific data.  |
| <b>Inhalation</b>   | Exposure to high concentrations can cause dizziness, lightheadedness, headache, nausea and blurred vision. Higher levels may cause unconsciousness.<br>May be harmful by inhalation if exposure to vapor, mists or fumes resulting from thermal decomposition products occurs. |
| <b>Ingestion</b>    | No specific data.  |

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

|                                    |                |
|------------------------------------|----------------|
| <b>Potential immediate effects</b> | Not available. |
| <b>Potential delayed effects</b>   | Not available. |

#### Long term exposure

|                                    |                |
|------------------------------------|----------------|
| <b>Potential immediate effects</b> | Not available. |
| <b>Potential delayed effects</b>   | Not available. |

#### Potential chronic health effects

|                              |   |
|------------------------------|---|
| <b>General</b>               | No known significant effects or critical hazards. |
| <b>Carcinogenicity</b>       | No known significant effects or critical hazards. |
| <b>Mutagenicity</b>          | No known significant effects or critical hazards. |
| <b>Teratogenicity</b>        | No known significant effects or critical hazards. |
| <b>Developmental effects</b> | No known significant effects or critical hazards. |
| <b>Fertility effects</b>     | No known significant effects or critical hazards. |

### Numerical measures of toxicity

#### Acute toxicity estimates

Not available.

### Additional information

Inhalation of decomposition products (occurs if heated > 260 C) or of smoke from contaminated tobacco products may cause respiratory irritation and induce Polymer Fume Fever condition. Symptoms of exposure to decomposition products are: lung irritation, pulmonary edema, flu-like symptoms (example - fever chills).

## Section 12. Ecological information

### Toxicity

No testing has been performed by the manufacturer.

### Persistence and degradability

Not expected to be rapidly degradable.

### Bioaccumulative potential

Not available.

### Mobility in soil

|  |                             |
|--|-----------------------------|
| <b>Soil/water partition coefficient (K<sub>oc</sub>)</b> | Not available.              |
| <b>Mobility</b>  | Liquid. insoluble in water. |

**Other adverse effects** No known significant effects or critical hazards.

## Section 13. Disposal considerations

### Disposal methods

The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

|                            | DOT Classification | TDG Classification | IMDG           | IATA           |
|----------------------------|--------------------|--------------------|----------------|----------------|
| UN number                  | Not regulated.     | Not regulated.     | Not regulated. | Not regulated. |
| UN proper shipping name    | -                  | -                  | -              | -              |
| Transport hazard class(es) | -                  | -                  | -              | -              |
| Packing group              | -                  | -                  | -              | -              |
| Environmental hazards      | No.                | No.                | No.            | No.            |
| Additional information     | -                  | -                  | -              | -              |

### Special precautions for user

Not available.

### Transport in bulk according to IMO instruments

Not available.

## Section 15. Regulatory information

### U.S. Federal regulations

#### United States inventory (TSCA 8b)

All components are active or exempted.

#### SARA 302/304

##### Composition/information on ingredients

No products were found.

#### SARA 311/312

##### Classification

Not applicable.

#### SARA 313

##### Form R - Reporting requirements

This product does not contain any hazardous ingredients at or above regulated thresholds.

##### Supplier notification

This product does not contain any hazardous ingredients at or above regulated thresholds.

### State regulations

#### Massachusetts

None of the components are listed.

#### New Jersey

None of the components are listed.

#### Pennsylvania

None of the components are listed.

#### California Prop. 65

## Section 15. Regulatory information

This product does not require a Safe Harbor warning under California Prop. 65.

### Other regulations

|   |   |
|---|---|
| Australia inventory (AIRC)                  | All components are listed or exempted.  |
| Canada inventory                            | All components are listed or exempted.  |
| China inventory (IECSC)                     | All components are listed or exempted.  |
| Japan inventory (CSCL)                      | All components are listed or exempted.  |
| Korea inventory (KECI)                      | All components are listed or exempted.  |
| Philippines inventory (PICCS)               | All components are listed or exempted.  |
| Taiwan Chemical Substances Inventory (TCSI) | All components are listed or exempted.  |
| REACH Status                                | For the REACH status of this product please consult your company contact, as identified in Section 1. |

## Section 16. Other information

### National Fire Protection Association (U.S.A.)



A NFPA health hazard rating of "3" is assigned due to toxicity of thermal decomposition products and fluorine (HF); otherwise, the material itself warrants a health hazard rating of "1".

### History

|                                |   |
|--------------------------------|---|
| Date of issue/Date of revision | 12/19/2023.   |
| Date of previous issue         | 03/18/2022.   |
| Prepared by                    | Product Stewardship   |
| Key to abbreviations           | ACGIH = American Conference of Industrial Hygienists<br>ATE = Acute Toxicity Estimate<br>BCF = Bioconcentration Factor<br>CAS Number = Chemical Abstracts Service Registry Number<br>GHS = Globally Harmonized System of Classification and Labelling of Chemicals<br>IATA = International Air Transport Association<br>IBC = Intermediate Bulk Container<br>IMDG = International Maritime Dangerous Goods<br>LogPow = logarithm of the octanol/water partition coefficient<br>MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)<br>OEL = Occupational Exposure Limit<br>SDS = Safety Data Sheet<br>STEL = Short term exposure limit<br>TWA = Time weighted average<br>UN = United Nations<br>UN Number = United Nations Number, a four digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods.<br>Varies = may contain one or more of the following 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0, 72623-87-1 |

Indicates information that has changed from previously issued version.

### Notice to reader



## Section 16. Other information

*All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.*

*The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.*

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